



State of Utah

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DIVISION OF
OIL GAS & MINING

DOGM
MINERALS PROGRAM
FILE COPY

Mr. Grant A. Pinkerton
North Lily Mining Company
P.O. Box 421
Eureka, Utah 84628

RE: North Lily Mining Company
Extension Project Phases I through III

Dear Mr. Pinkerton:

We received revised plans and specifications for the subject project on March 6, 1991. We have the following comments:

1. Drawing Sheet 4, upper right, titled "Primary Collection System". The note to extend the monitor lines four feet beyond the liner protective cover material needs a detail to depict the configuration, grades, labeling of ports, locations, capping, etc.
2. Drawing Sheet 6, Section E-E', and similar drawings will need revision. Ditches and uncovered liner areas for leachate flow need subsurface sumps compartmented transversely to the flow direction with confining clay dams or other means, to help define any leakage to zones of these areas. These areas should be lined beneath, with a flexible membrane liner (FML). See the attached drawing. This configuration will allow early detection of leakage isolated to these areas. Continuous solid monitoring pipelines connected to the perforated collector pipes will isolate any leakage flow to specific areas of the pads for each such pipeline.
3. Drawing Sheet 7, Section I-I', the slope of the primary liner should be indicated.
4. Specifications Section 5.2. Perimeter berm material gradation requirements shall be modified to be a stable, moldable material. A non-free draining cohesive material appears to be available within the ranges specified.
5. Specifications Section 5.4. The leak detection system media shall not have a capillary water potential greater than its height.
6. Specifications Section 7.0. The leak detection system minimum sensitivity of 0.5 psi or 1.15 feet is too high. A system such as an electrical level probe would indicate depths in increments of one inch or greater. A 1.15 foot indication would be a major problem and lower levels would be undetectable.
7. The grading tolerance stated in Specifications Section 9.4 shall not be applicable to an abrupt change in surface, but only to graded elevation errors.

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8. Specifications Section 10.2.3, ninety-five percent compaction shall be required for perimeter berms.
9. We suggest you require that when loading ore over new and existing berm structures, that cushioning ore be placed along the berm side slopes prior to additional vertical loading, to prevent deformation.
10. Permeability and compaction requirements should be indicated.
11. For the secondary liner, both the lower and upper liner components must meet the requirements.
12. Neutralization requirements shall conform to the Ground Water Discharge Permit, Closure and Contingency Requirements, for the facility.
13. Storage of storm and snowmelt water is a concern. The issue of adequate storage should be again reviewed at the time of application for construction of Phase III. Overflow pond capacity being used for liquid storage and the volume of inventory in the operational ponds being used (3-feet used in analysis) must be considered at that time. Respective elimination and reduction of the overflow pond and operating pond water inventories or enlargement of the overflow pond are possible solutions to the adequacy of the storm and snowmelt storage issue.
14. Construction must meet the requirements of the current draft regulations for heap leaches.
15. Testing submittal requirements should be summarized.
16. It appears that an eight-inch diameter solid manifold pipe would be more appropriate for Phase I, due to its future connection to the Phase III heap.

Please address the above issues in writing, you may also wish to revise your plans accordingly. Feel free to call on any questions.

Sincerely,



David A. Rupp, P. E.
Environmental Engineer
Bureau of Water Pollution Control

DAR:rvg

cc: Dames and Moore, Salt Lake City
Roger Foisy, Central Utah District Health Dept.
Wayne Hedberg, DOGM



Attachment
BWPc ltr 3/28/91